

- [002] This application is a national stage completion of PCT/EP2003/007242 ❖
 filed July 7, 2003 which claims priority from German Application Serial ❖
 No. 102 31 349.0 filed July 11, 2002. ❖
- [003] FIELD OF THE INVENTION ❖
- [004] The present invention relates to a multi-step transmission in planetary
 construction, especially an automatic transmission for a motor vehicle according ❖
 to the preamble of patent claim 1. ❖
- [005] BACKGROUND OF THE INVENTION ❖
- [013] ~~This objective is accomplished in accordance with the invention through~~ ❖
 ~~the features of patent claim 1. Further advantages and beneficial embodiments~~ ❖
 ~~will emerge from the dependent claims.~~ ❖
- [014] SUMMARY OF THE INVENTION ❖
- [024] BRIEF DESCRIPTION OF THE DRAWINGS ❖
- [025] The invention will now be explained in greater detail below described, by ❖
 way of example ~~on~~, with reference to the basis of the accompanying drawings; ❖
 wherein in which: ❖
- [031] DETAILED DESCRIPTION OF THE INVENTION ❖

1-23. (CANCELED)

24. (NEW) A multi-step transmission in planetary construction, especially an automatic transmission for a motor vehicle, including an input shaft (1) and an output shaft (2), which are arranged in a housing (G), first, second and third spider supported planetary gears (P1, P2, P3), at least seven rotational shafts (1, 2, 3, 4, 5, 6, 7), as well as at least six shifting elements (00, 03, 13, 36, 45, 47, 67), including brakes and clutches, whose selective engagement brings about different reduction ratios between the input shaft (1) and the output shaft (2), so that seven forward gears and one reverse gear can be realized, input takes place through the input shaft (1), which is continuously connected with an element of the first planetary gear set (P1), wherein a further element of the first planetary gear set (P1) is torsion-resistantly connected with the housing (G) through an eighth shaft (0), output takes place through the output shaft (2), which is continuously in connection with a planet carrier of the second planetary gear set (P2) and a ring gear of the third planetary gear set (P3), wherein a third shaft (3) is continuously connected with a planet carrier of the third planetary gear set (P3), a fourth shaft (4) is continuously connected with a ring gear of the second planetary gear set (P2), a fifth shaft (5) is continuously connected with a ring gear of the first planetary gear set (P1), a sixth shaft (6) is continuously connected with a sun wheel of the second planetary gear set (P2), a seventh shaft (7) is continuously connected with a sun wheel of the third planetary gear set (P3), whereby the third shaft (3) can be coupled to the housing (G) through a first brake (03), a first clutch (13) detachably connects the input shaft (1) and the third shaft (3) with each other, a second clutch (36) detachably connects the third shaft (3) and the sixth shaft (6) with each other, a third clutch (45) detachably connects the fourth shaft (4) and the fifth shaft (5) with each other, and whereby a fourth and a fifth clutch (47, 67) detachably connects the fourth shaft (4) and the sixth shaft (6) with each other, the fourth clutch (47) detachably connects the fourth shaft (4) and the seventh shaft (7) with each other, and whereby the fifth clutch (67) detachably connects the sixth shaft (6) and the seventh shaft (7) with each other.

25. (NEW) The multi-step transmission according to claim 24, wherein the input shaft (1) is continuously connected with a sun wheel of the first planetary gear set (P1), and a planet carrier of the first planetary gear set (P1) is connected with the housing (G).

26. (NEW) The multi-step transmission according to claim 24, wherein the shaft (1) is continuously connected with a planet carrier of the first planetary gear set (P1), and a sun wheel of the first planetary gearset (P1) is connected with the housing (G).

27. (NEW) The multi-step transmission according to claim 24, wherein the second planetary gear set (P2), and the third planetary gear set (P3) are constructed as minus planetary gear sets, and the first planetary gear set (P1) is constructed as a plus planetary gear set.

28. (NEW) The multi-step transmission according to claim 24, wherein a fixed connection of the first planetary gear set (P1) with the housing (G) can be replaced with a detachable connection by means of a second brake (00).

29. (NEW) The multi-step transmission according to claim 28, wherein one of an electric machine or a further input shaft may be arranged on the eighth shaft (0) detached from the housing (G).

30. (NEW) The multi-step transmission according to claim 24, wherein additional free wheels can be used on any suitable position.

31. (NEW) The multi-step transmission according to claim 30, wherein the free wheels are provided between the at least seven rotational shafts (1, 2, 3, 4, 5, 6, 7), and the housing (G).

32. (NEW) The multi-step transmission according to claim 24, wherein the input and output are provided on a same side of the housing.

33. (NEW) The multi-step transmission according to claim 24, wherein one or more of an axle and an inter-axle differential is arranged on an input side or an output side.

34. (NEW) The multi-step transmission according to claim 24, wherein the input shaft (1) can be separated from a drive motor through a clutch element.

35. (NEW) The multi-step transmission according to claim 34, wherein the clutch element is one of a hydrodynamic converter, a hydraulic clutch, a dry starting clutch, a wet starting clutch, a magnetic powder clutch, and a centrifugal clutch.

36. (NEW) The multi-step transmission according to claim 24, wherein an external starting element can be arranged behind the transmission in a direction of a

power flow, whereby the input shaft (1) has a fixed connection with a crankshaft of a motor.

37. (NEW) The multi-step transmission according to claim 24, wherein starting takes place using a shifting element of the transmission, whereby the input shaft (1) is continuously connected with a crankshaft of a motor.

38. (NEW) The multi-step transmission according to claim 37, wherein one of the third clutch (45) or the first brake (03) can be used as a shifting element.

39. (NEW) The multi-step transmission according to claim 24, wherein a torsion vibration damper can be arranged between a motor and the transmission.

40. (NEW) The multi-step transmission according to claim 24, wherein a wear-free brake can be arranged on each of the at least seven rotational shafts.

41. (NEW) The multi-step transmission according to claim 24, wherein an auxiliary output can be arranged on each of the at least seven rotational shafts for driving additional units.

42. (NEW) The multi-step transmission according to claim 41, wherein the auxiliary output can be arranged on one of the input shaft (1) or the output shaft (2).

43. (NEW) The multi-step transmission according to claim 24, wherein the shifting elements are constructed as one of power-shifting clutches or brakes.

44. (NEW) The multi-step transmission according to claim 43, wherein one or more of multi-plate clutches, band brakes, and cone couplings can be used.

45. (NEW) The multi-step transmission according to claim 24, wherein one or more of positive-locking brakes and clutches are provided as shifting elements.

46. (NEW) The multi-step transmission according to claim 24, wherein an electrical machine can be attached on each shaft as one or more of a generator, and as an additional drive machine.